



CERTIFICATE NUMBER
15-HS1338123-PDA

DATE
16 Apr 2015

ABS TECHNICAL OFFICE
Houston OED - Risers

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
CLA-VAL COMPANY

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Valve**

Model: **50B-4KG1(Globe) 2050B-4KG1(Angle) 50B-4KG1KOL(Globe) 2050B-4KG1KOL(Angle) 50-49: 50G-49 (Globe) 50A-49 (Angle) 50G-49KX (Globe) 50A-49KX (Angle)**

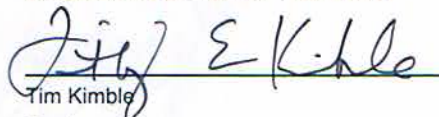
This Product Design Assessment (PDA) Certificate 15-HS1338123-PDA, dated 16/Apr/2015 remains valid until 15/Apr/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING


Tim Kimble
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-ABS-9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

CLA-VAL COMPANY
1701 PLACENTIA AVENUE
COSTA MESA CA
United States 92627
Telephone: 949-722-4800
Fax: 949-548-9900
Email: dalexand@cla-val.com

Web: cla-val.com

Tier: 2 - PDA Issued

Product: Valve

Model: 50B-4KG1(Globe)
2050B-4KG1(Angle)
50B-4KG1KOL(Globe)
2050B-4KG1KOL(Angle)
50-49: 50G-49 (Globe)
50A-49 (Angle)
50G-49KX (Globe)
50A-49KX (Angle)

Intended Service:

Marine and Offshore Applications - Seawater and Fire Water Piping System

Description:

The Cla-Val Model 50B-4KG1(Globe), 2050B-4KG1(Angle), 50B-4KG1KOL(Globe), and 2050B-4KG1KOL(Angle) Pressure Relief Valves are designed specifically to automatically relieve excess pressure in seawater or fire protection pumping systems.

The 50B-4KG1KOL and 2050B-4KG1KOL valves are designed with a KOL anti-cavitation seat to eliminate the damaging effects of cavitation.

The Model 50-49 Pump Start/Pressure Relief Valve is designed to provide pump and pipeline protection during pump start sequence and pump operation when discharge pressure rises to unsafe levels.

U.L. Listed: Sizes 3", 4", 6", and 8"

F.M. Approved: Sizes 3", 4", 6", and 8"

Optional UL Listed Materials for Seawater and Severe Service Applications:

- Nickel Aluminum Bronze (NAB) - ASTM B148 Alloy C95800 (See Service Restriction 2)
- Monel - QQ-N-288 Comp B - ASTM A494 Grade M30H
- Cast Steel - ASTM A216 Grade WCB
- 316 Stainless Steel - ASTM A743 Grades CF3M and CFM8
- Super Austenitic Stainless Steel - ASTM A351 Grade CK3MCuN (SMO 254)
- Super Duplex Stainless Steel - ASTM A890 Grade 5A (CE3MN)

Rating:

Pressure:

Class - 175 psi Max (Model 50B-4KG1, 2050B-4KG1, 50-49 in the 8" size)

Class - 300 psi Max (Model 50B-4KG1 and 2050B-4KG1 in the 3", 4" and 6" size; 50B-4KG1KOL, 2050B-4KG1KOL and 50-49 in the 3", 4", 6" and 8" size)

Design Temperature (Water): up to 180 °F Max;

Adjustment Range: 20-200 psi (150 Class), 100-300 psi (300 Class).

Valve Capacity: See attached "pdf"

Service Restriction:

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

2. Where the valves are used in fire water piping system, materials rendered ineffective by heat are not to be used in the construction of the valves or the closure mechanism unless protected adequately, as per 4-7-3/1.11 of ABS Rules for Bulding and Classing Steel Vessels 2015.

CLA-VAL COMPANY
1701 PLACENTIA AVENUE
COSTA MESA CA
United States 92627
Telephone: 949-722-4800
Fax: 949-548-9900
Email: dalexand@cla-val.com

Web: cla-val.com

Tier: 2 - PDA Issued

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

- 1). The pressure relief valve is to be set, sealed and installed in accordance with the manufacturer's instructions.
- 2). The pilot control loop plays an important role for the valve functions and is to be well protected against all possible mechanical damage on the drilling rig.

Notes/Drawing/Documentation:

Drawing No. E-50B-4KG1_Bronze, Product Information Sheet, Revision: -
Drawing No. FM Approval Report 50B-4KG1 for Split Case Fire Pumps May1982, FM Report, Revision: -
Drawing No. FM Approval Report 50B-4KG1 for Vertical Shaft Split Case Fire Pumps Oct, FM Report, Revision: -
Drawing No. FM Approval Report for 50B-4KG1 with CRL60 20-200 100-300 Dec2012, FM Report, Revision: -
Drawing No. FM Test Report for 50B-4KG1 with CRL60 Proof Pressure Results Dec2012, FM Report, Revision: -
Drawing No. UL Test Report 50B-4KG 3 to 6in Mar1973, UL Test Report, Revision: -
Drawing No. UL Test Report 8in 50B-4KG Nov1993, UL Test Report, Revision: -
Drawing No. E-50B-4KG1KOL, Product Information Sheet, Revision: -
Drawing No. FM Approval Report for Water Pressure Relief Valves, Model 50B-4KG1KOL and 2050B-4KG1KOL, Revision: -
Drawing No. E 50-49 and 50-49KX, Product Information Sheet, Revision: -

Term of Validity:

This Product Design Assessment (PDA) Certificate 15-HS1338123-PDA, dated DD/MMM/YYYY remains valid until DD/MMM/YYYY or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

Terms of Validity:

This Product Design Assessment (PDA) Certificate 15-HS1338123-PDA, dated 16/Apr/2015 remains valid until 15/Apr/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2015 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-7-3
2015 Rules for Building and Classing Mobile Offshore Drilling Units 1-1-4/9.7, 1-1-A2, 1-1-A3
2015 Rules for Building and Classing Facilities on Offshore Installations 3-8/5.1.1